

Amendments to the Claims

Please cancel Claims 4 and 7 without prejudice or disclaimer of the subject matter recited therein.

Please amend Claims 1-3, 5, 6, 8-12, 14 and 16-20 to read as follows.

1. (Currently Amended) An inkjet printing apparatus having a printhead with an orifice surface ~~in which~~ including a plurality of orifice groups each ~~formed by having~~ a plurality of orifices for discharging ink, ~~are formed, and cleaning means for cleaning the orifice surface, comprising:~~

~~counting means for detecting and storing an ink discharge count of each orifice group~~ cleaning means for cleaning the orifice surface; and

~~cleaning control means for cleaning the orifice surface by the~~ causing said cleaning means to execute a cleaning operation in accordance with ink discharge counts of the plurality of orifice groups,

~~wherein in said cleaning control means, an~~ respective ink discharge count ~~used to execute cleaning in accordance with a discharge count of ink discharged from an orifice group formed at a predetermined position of the printhead out of the plurality of orifice groups, and an ink discharge count used to execute cleaning in accordance with a discharge count of ink discharged from another orifice group formed at a position different from the orifice group formed at the predetermined position are different~~ counts, corresponding to respective orifice groups at both ends of the plurality of orifice groups.

required to execute the cleaning operation are greater than an ink discharge count,  
corresponding to another orifice group different from the orifice groups at both ends,  
required to execute the cleaning operation.

2. (Currently Amended) The apparatus according to claim 1, wherein said cleaning control means determines, on the basis of the respective ink discharge count counts of each the plurality of orifice group that is stored in said counting means groups, whether a predetermined cleaning condition which changes in accordance with a formation position of the orifice group has been established, and when the predetermined cleaning condition has been established, ~~executes cleaning~~ causes said cleaning means to execute the cleaning operation.

3. (Currently Amended) The apparatus according to claim 2, wherein said cleaning control means determines as the predetermined cleaning condition whether the respective discharge count counts of each the plurality of orifice group groups has reached a predetermined count, ~~and,~~  
~~in the predetermined cleaning condition, a predetermined count corresponding to an outer orifice group and a predetermined count corresponding to an orifice group arranged inside from the outer orifice group are different.~~

Claim 4 (Canceled).

5. (Currently Amended) The apparatus according to claim 2, wherein said cleaning control means determines as the cleaning condition whether a value obtained by multiplying the respective discharge count counts of ~~each~~ the plurality of orifice group groups by a weighting coefficient has reached a predetermined count, and a weighting coefficient corresponding to ~~an outer orifice group~~ the respective orifice groups at both ends and a weighting coefficient corresponding to ~~an orifice group arranged inside from the outer orifice group~~ the other group different from the orifice groups at both ends are different.

6. (Currently Amended) The apparatus according to claim 2, wherein said cleaning control means determines as the cleaning condition whether a value obtained by multiplying the respective discharge count counts of ~~each~~ the plurality of orifice group groups by a weighting coefficient has reached a predetermined count, and a weighting coefficient corresponding to ~~the~~ a predetermined orifice group and a weighting coefficient corresponding to ~~said~~ another orifice group formed outside the predetermined orifice group are different.

Claim 7 (Canceled).

8. (Currently Amended) The apparatus according to claim 5, wherein the weighting coefficient corresponding to the ~~outer~~ respective orifice ~~group~~ groups at both ends is smaller than the weighting coefficient corresponding to the other orifice group ~~arranged inside from the outer orifice group~~ different from the orifice groups at both ends.

9. (Currently Amended) The apparatus according to claim 2, further comprising:

detection means for detecting a distance between the orifice groups formed in the printhead; and

setting means for setting the predetermined cleaning condition in accordance with the distance between the orifice groups that is detected by said detection means.

10. (Currently Amended) The apparatus according to claim 2, wherein when said cleaning control means determines that the predetermined cleaning condition for any one of the plurality of orifice groups ~~of respective inks~~ has been established, said cleaning control means ~~cleans the orifice surface~~ causes said cleaning means to execute the cleaning operation.

11. (Currently Amended) The apparatus according to claim 1, wherein said cleaning control means defines, as a an ink discharge count ~~of ink~~ discharged from the printhead, a value obtained by multiplying the respective ink discharge ~~count~~ counts of ~~each the plurality of orifice group groups~~ by a weighting coefficient corresponding to a formation position of the orifice group, determines whether ~~the~~ a cleaning condition of the printhead has been established, on the basis of the ink discharge count ~~of ink~~ discharged from the printhead, and when the cleaning condition of the printhead has been established, ~~executes cleaning~~ causes said cleaning means to execute the cleaning operation.

12. (Currently Amended) The apparatus according to claim 11, wherein a weighting coefficient corresponding to ~~the~~ a predetermined orifice group ~~formed at the predetermined position~~ and a weighting coefficient corresponding to ~~said~~ another orifice group formed outside the predetermined orifice group ~~formed at the predetermined position~~ are different.

13. (Original) The apparatus according to claim 11, further comprising detection means for detecting a distance between the orifice groups formed in the printhead,

wherein the weighting coefficient is changed in accordance with the distance between the orifice groups that is detected by said detection means.

14. (Currently Amended) The apparatus according to claim 1, wherein said cleaning means ~~includes~~ comprises wiping means for wiping ~~an end~~ a face of the orifice surface by an elastic member.

15. (Original) The apparatus according to claim 1, wherein the orifice groups are arranged for at least yellow, magenta, and cyan colors.

16. (Currently Amended) A cleaning control method for an inkjet printing apparatus having a printhead with an orifice surface ~~in which~~ including a plurality of orifice groups each ~~formed by~~ having a plurality of orifices for discharging ink, ~~are formed, and cleaning means for cleaning the orifice surface,~~ comprising:

~~a counting step of detecting and storing an ink discharge count of each orifice group~~ cleaning step of cleaning the orifice surface; and

~~a cleaning control step of cleaning the orifice surface by the~~ causing said ~~cleaning means~~ step to execute a cleaning operation in accordance with ink discharge counts of the plurality of orifice groups,

~~wherein in the cleaning control step, an~~ respective ~~ink discharge count used~~ counts, corresponding to respective orifice groups at both ends of the plurality of orifice groups, required to execute ~~the~~ cleaning ~~in accordance with a discharge count of ink~~ discharged from an orifice group formed at a predetermined position of the printhead out of the plurality of orifice groups, and operation are greater than an ink discharge count,

corresponding to another orifice group different from the orifice groups at both ends,  
required to execute the cleaning operation ~~used to execute cleaning in accordance with a~~  
~~discharge count of ink discharged from another orifice group formed at a position different~~  
~~from the orifice group formed at the predetermined position are different .~~

17. (Currently Amended) The method according to claim 16, wherein  
in ~~the~~ said cleaning control step, a value obtained by multiplying the respective discharge  
~~count counts of each the plurality of orifice group groups that is counted in the counting~~  
step by a weighting coefficient corresponding to a formation position of the orifice group is  
defined as a an ink discharge count ~~of ink~~ discharged from the printhead, whether a  
cleaning condition of the printhead has been established is determined on the basis of the  
ink discharge count ~~of ink~~ discharged from the printhead, and when the cleaning condition  
of the printhead has been established, the cleaning operation is executed.

18. (Currently Amended) The method according to claim 16, wherein  
in ~~the~~ said cleaning control step, when the respective ink discharge ~~count~~  
counts of each the plurality of orifice group that is stored in the counting step groups  
reaches a predetermined value, ~~the~~ a cleaning condition is determined to have been  
established and the ~~orifice surface is cleaned~~ cleaning operation is executed, and

a predetermined count corresponding to ~~an outer orifice group~~ the respective orifice groups at both ends and a predetermined count corresponding to ~~an orifice group arranged inside from the outer orifice group~~ the other group different from the orifice groups at both ends are different.

19. (Currently Amended) The method according to claim 16, wherein in ~~the~~ said cleaning control step, when a value obtained by multiplying the respective ink discharge count counts of ~~each the plurality of orifice group that is stored in the counting step groups~~ by a weighting coefficient reaches a predetermined value, ~~the a~~ cleaning condition is determined to have been established and the ~~orifice surface is cleaned~~ cleaning operation is executed, and

a weighting coefficient corresponding to ~~an outer orifice group~~ the respective orifice groups at both ends and a weighting coefficient corresponding to ~~an orifice group arranged inside from the outer orifice group~~ the other group different from the orifice groups at both ends are different.

20. (Currently Amended) An inkjet printing apparatus having a printhead with an orifice surface ~~in which~~ including a plurality of orifice groups each ~~formed by having~~ a plurality of orifices for discharging ink, ~~are formed~~, and cleaning means for cleaning the orifice surface, comprising:



storage means for storing, for each of the plurality of orifice groups, information ~~on a~~ regarding an ink discharge amount ~~of ink~~ discharged from the orifice group; and

cleaning control means for ~~cleaning the orifice surface by~~ causing the cleaning means to execute a cleaning operation when ~~an~~ the ink discharge amount ~~represented by the~~ corresponding to the information stored in said storage means ~~exceeds~~ reaches a predetermined amount,

wherein ~~an~~ respective ink discharge ~~amount~~ amounts, ~~used to shift to~~ cleaning operation is different between an orifice group formed at a predetermined position of the printhead and an orifice group formed at a position different from the orifice group formed at the predetermined position corresponding to respective orifice groups at both ends of the plurality of orifice groups, required to execute the cleaning operation are greater than an ink discharge amount, corresponding to another orifice group different from the orifice groups at both ends, required to execute to the cleaning operation.